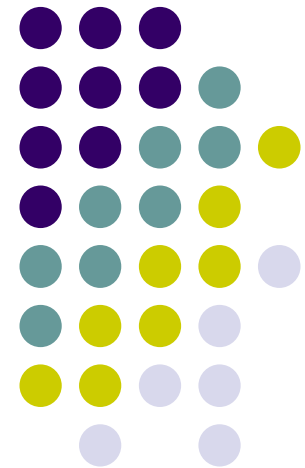




## The Lithium Force e-Bus

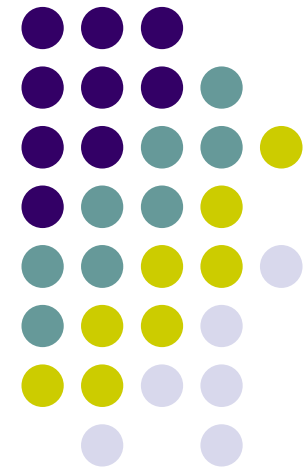
The world's most advance  
electric bus system





## About Lithium Force

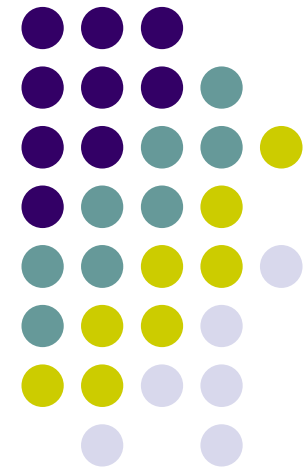
- Registered in Hong Kong
- Purchased a variety of EV-related businesses & technology including battery pack design and build facilities, recharging expertise and V2G laboratory
- Venture-backed by Chinese and Israeli VC
- Run by professionals drawing out the best of East & West
- Committed to world-class quality of products and service





## Beijing Summer Olympics, 2008

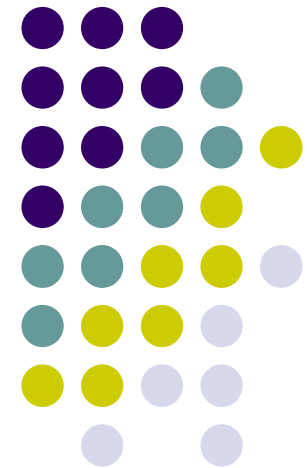
50 fully electric buses deployed in the Olympic village to transport athletes and Olympic Personnel





## Beijing Metropolitan Transit

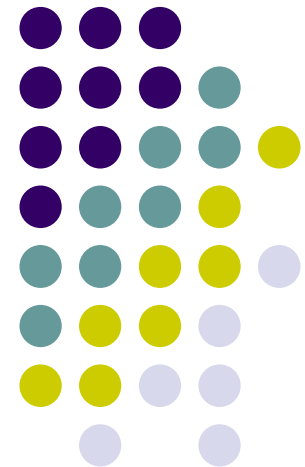
50 Olympic buses fully integrated into  
the city bus fleet





## Swappable battery packs

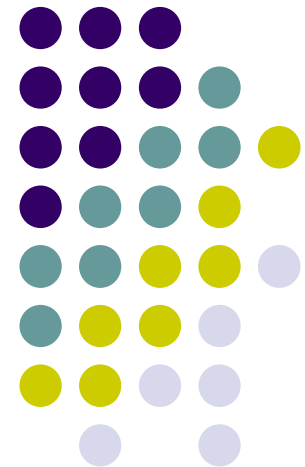
Each bus fitted with ten interchangeable battery packs; buses can travel 130-150km per charge (depending on aircon usage)





## Six minute battery exchange

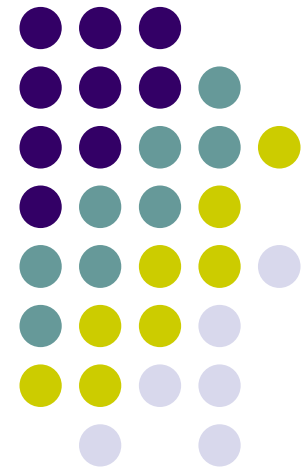
Buses pull into swap station and 2 robots exchange spent batteries with full ones in less than six minutes





Batteries can be recharged at night

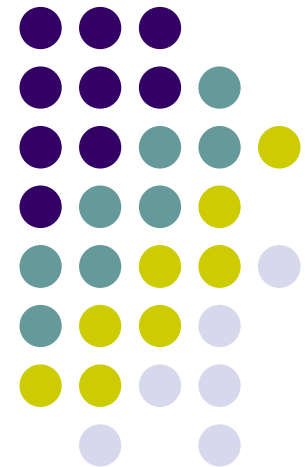
Night time electricity is abundant and cheap – recharging at night allows for increased power grid optimisation





## Battery packs fully optimized

Entire set of battery packs optimised  
by sophisticated recharging software  
to enhance cell lifetime

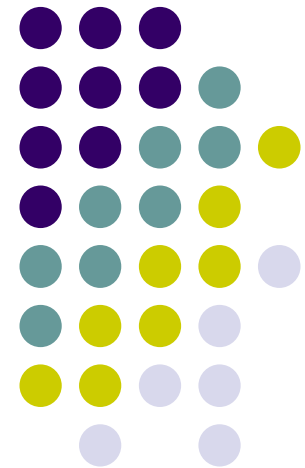






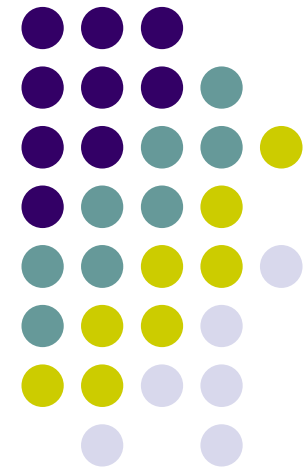
Manual battery swap available

Near-zero down time in case of battery failure – fast manual battery interchange available at roadside



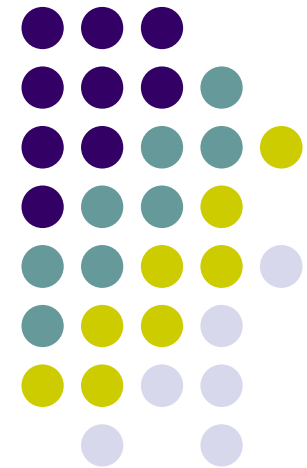
## Cost/Benefit

- £140,000: e-Bus extra cost (compared to diesel) (including recharging infrastructure; excluding land for recharging station)
- £35,000: annual fuel and servicing costs for diesel circa (assuming 200miles a day, 64p/litre, 1.5m/litre)
- £2,000: Annual e-Bus operational costs
- Zero emissions = unquantifiable huge benefit
- Costs are fixed (do not fluctuate with oil prices)



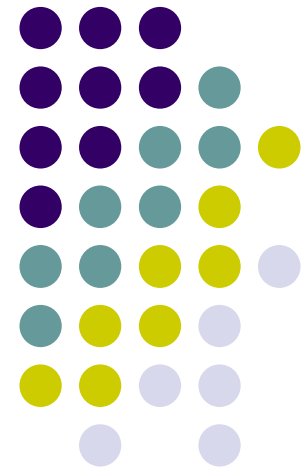


Packs fit underneath the bus and at the rear adding stability and giving easy access.



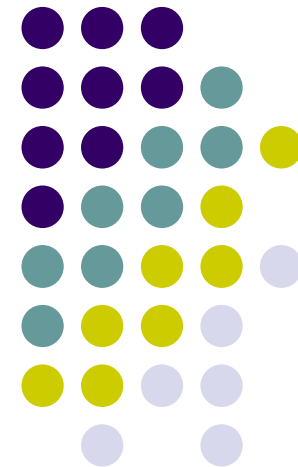


Buses are deployed in a full operational real-life transit system. This turnkey solution can be rolled out in cities across the world



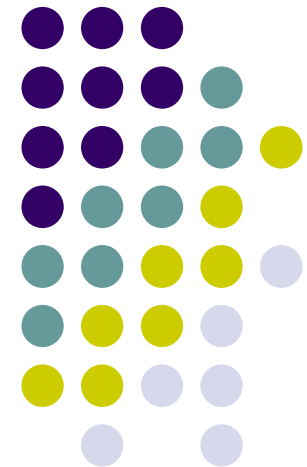
## E-Bus advantages over trams/trolley buses

- Much lower infrastructure costs
- No ugly/dangerous overhead wires
- Much lower vehicle costs
- Can use night-time electricity
- Can be deployed anywhere in the city, any time



## Potential....

- A 100% Zero Emission bus fleet for small to medium size cities
- Fast implementation, no planning permission required
- Use excess night-time electricity (renewables such as wind, where available)
- Integration with the power grid for peak support
- Technology adaptable for use in city vehicles fleets such as waste collection



## Recap: benefits of battery swap

1. Unlimited range
2. Night time recharge
3. Battery optimisation for longer life
4. Near-zero down time

